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Commentary on “The Pleasantness of False Beliefs”

Todd E. Feinberg (New York)

Before I address the specifics of the interesting paper by Turnbull, Jenkins, and Rowley, I would like to review some literature on the issue of the role of motivational and emotional factors in confabulation and anosognosia. In 1944, Paterson and Zangwill described confabulatory patients in a posttraumatic confusional state that misidentified their current location to a geographical location closer to their actual home. Paterson and Zangwill also noted that during the course of recovery, the patients would maintain that they were simultaneously located in both the correct and the incorrect locations, a condition that Pick (1903) called *reduplicative paramnesia*. Paterson and Zangwill observed that these patients were oblivious to the conflict presented by their dual orientation and would confabulate explanations when confronted with the disparity. These patients might accept the correct orientation in an “abstract geographical” sense, such as knowing the correct locale “according to the map”, but still maintain that they “felt” they were located closer to home.

Paterson and Zangwill made two important observations regarding this disorientation: (1) while amnesia was initially present, the “retention deficit cleared rapidly” and memory was adequate to recall the day’s events a full week before correct orientation returned, and (2) some patients with this disorder verbally expressed a strong desire to return home. These features led Paterson and Zangwill to conclude that affective and motivational factors played a significant role in persistent disorientation. They suggested that under the conditions of brain damage, motivational factors were “actively inhibiting the cognitive mechanisms

which normally subserve orientation,” and this accounted for the persistent disorientation when “cognitive recovery had proceeded far enough to permit and sustain proper orientation.” They interpreted the disorientation on the basis of both the *negative features*—in a Jacksonian sense (Taylor, 1958)—of anterograde and retrograde amnesia, restriction of perception, and a defect in judgment in which there is a failure to correct incompatible interpretations, as well as the *positive features* of affect and motivation.

Many years later, Ruff and Volpe (1981) described four patients who confabulated that their hospital rooms were located in their homes or that the hospital was moved into their house. The authors pointed out that each patient, like the Paterson and Zangwill patients, possessed a strong desire to return home. These authors suggested that in these patients a multiplicity of neurological and psychological factors played a role in creating their delusional beliefs:

Other factors may have contributed to the specificity of their disorientation, that is that all our patients insisted that they were at home. When they recovered each claimed that their confabulated stories resulted from a desire to be at home. Though it is difficult to know how the desire may have contributed to the formation of environmental reduplication in our patients, others have suggested that motivation may be essential in the formation and pattern of reduplication. . . . In summary, environmental reduplication in each of our patients was associated with a right parietal or frontal cerebral lesion, impaired spatial perception and visual memory, confusion or apathy early in the hospital course, and a strong desire to be at home. [Ruff & Volpe, 1981, p. 385]

The “others” referred to in the above quotation were most significantly Edwin Weinstein and co-workers (Weinstein, 1991; Weinstein & Cole, 1964a, 1964b;

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Weinstein, Friedland, & Wagner, 1994; Weinstein & Kahn, 1950, 1955). Weinstein emphasized the positive, motivational, and adaptive features of confabulation and the role of *psychological denial* in the production of confabulation, disorientation, and unawareness of a variety of neurological defects including memory loss. Weinstein and coworkers also noted the refractoriness of these beliefs to correction, and they argued that cognitive defects alone could not explain the patients' behaviors.

Weinstein (1991; Weinstein & Friedland, 1977) further argued that patients with confabulation and anosognosia, although they explicitly denied their defects, possessed *implicit knowledge* of their neurological defects. For instance, they described how a patient with anosognosia for hemiplegia (AHP), when asked to raise the left arm, might raise the right arm, but perform normally on other tests of right-left orientation. In a similar fashion, a confabulatory patient of ours with Anton's syndrome (denial of blindness) due to peripheral blindness and frontal-lobe lesions, in spite of denying his blindness and confabulating visual experience, would never attempt to read or walk without the help of his companion, and even obtained and used a blind cane (Feinberg, 1997).

Finally, Weinstein and coworkers (Weinstein, 1991; Weinstein, Friedland, & Wagner, 1994) provided evidence that many of the reduplications and confabulations produced by these patients are "metaphorical or symbolic representations" of the patient's neurologic disabilities or other problems. While these patients would *explicitly* minimize or completely deny their neurological impairments or problems, they displayed considerable *implicit* knowledge of these same issues. Weinstein argued that these fictitious accounts or reduplications are accepted over reality because they provide a greater sense of identity and relatedness, create order and unity, and "provide a more vivid feeling of reality than a more referential veridical statement" (Weinstein, 1991).

A good example of this type of reduplicative confabulation is provided in a case reported by Baddeley and Wilson (1986). They described RJ, a 42-year-old man who sustained a severe closed head injury, bilateral frontal hematomas, prominent anterograde and retrograde memory impairment, and confabulation. He admitted being in a car accident and being "hurt" but "not badly." He also confabulated lighthearted conversations that purportedly took place after the accident that minimized the seriousness of the event and his injuries. This patient produced a reduplicative confabulation claiming that he had two brothers, both named "Martin" (he actually had one living brother

named Martin) and that one "Martin" had been "killed in a car accident."

In a similar case, I examined a 65-year-old woman who sustained bifrontal infarcts after repair of a ruptured ACoA aneurysm and retrograde and anterograde amnesia. She initially denied surgery or illness in herself but confabulated that she was visiting her niece who had an aneurysm. Subsequently she would occasionally admit she had had surgery for the aneurysm, but confabulated that she had an aunt who "couldn't think straight" because of an aneurysm and a "couple of cousins" who "all came for the same reason, aneurysm on top of their heads" (Feinberg, 2001).

In these cases we see a constellation of retrograde and anterograde amnesia, minimization or denial of illness, and confabulations that in a certain sense describe many of the problems of which the patient is seemingly unaware. Like confabulations in AHP and Anton's syndrome, these confabulations and beliefs are refractory to correction.

In summary, motivation and emotional factors have been implicated in the production of confabulation because:

1. *Confabulatory beliefs that relate to the self generally represent patients in a better position than they are in reality.* Patients with delusional or confabulatory orientation tend to locate themselves in comfortable familiar surroundings. They may claim they are at home or at work whereas they are actually located in a hospital or rehabilitation facility. If they are aware that they are in a hospital, they tend to mislocate the hospital closer to their home or to a location significantly related to their past.
2. *Confabulatory patients appear unaware of or minimize their illnesses.* Most confabulatory patients deny or appear unaware that there is anything wrong with them.
3. *Confabulatory beliefs are refractory to correction.* It has been repeatedly observed that some confabulatory patients can be repeatedly told about their correct orientation or the facts of their illness, and even retain this information, yet hold to their misidentification of place or deny illness. This suggests that there is an impediment or resistance to the truth.
4. *Confabulations are often selective.* Patients with confabulations that persist over time are usually only confabulatory when asked about specific topics of personal significance, such as their illness, family, location, job situation, or other emotionally charged topics.

5. *Patients with confabulation may have implicit knowledge regarding their true location, illnesses, and other issues that they seem unaware of and confabulate about.* As noted by Weinstein and confirmed by our own observations, many confabulatory patients who explicitly deny their impairments show implicit knowledge of the true state of affairs.

However, Features 1 and 2 could be due to *simple unawareness* and do not necessarily require motivational factors. For example, current explanations for confabulation—such as the presence of a dysexecutive syndrome in the presence of amnesia (Baddeley & Wilson, 1986, 1988; DeLuca, 1993, 2001; DeLuca & Cicerone, 1991; Kapur & Coughlan, 1980; Stuss, 1991; Stuss, Alexander, Lieberman, & Levine, 1978), strategic retrieval defects (Moscovitch, 1989, 1995; Moscovitch & Melo, 1997), a failure of reality monitoring (Johnson, 1991), or temporal context confusion (Ptak & Schnider, 1999; Schnider, 2003; Schnider, von Daniken, & Gutbrod, 1996; Schnider et al., 2000; Talland, 1961)—could explain the *negative* features of the syndrome such as simple unawareness of location or illness. For example, patients may simply not remember where they are located or the fact that they suffer from serious neurological illness. Temporal context confusion or retrieval defects could cause old memories to be confused with recent memories, explaining why confabulatory patients believe they are located in previously known locations or performing well-known social roles. However, these explanations appear incomplete when attempting to explain Features 3–5, the *positive* features of confabulation. This suggests that there may be different types of confabulation with reference to the self, motivation, awareness, and emotion.

In order to deal with these issues, I have proposed a dichotomy that accounts for both negative and positive features of confabulation and awareness (Feinberg, 1997, 2001; Feinberg & Roane, 1997) (see also Table 1). One variety of confabulation I termed *neutral confabulation*. This variety of confabulation may occur in any domain (e.g., visual, somatosensory, memory) but is usually confined to that domain. Neutral confabulation is nondelusional, and the content of the confabulations is not self-referential. Hence the designation “neutral confabulation.” Some varieties of “provoked” confabulation in amnesia are examples. Neutral confabulation is best explained by deficit theories that address the negative features of confabulation.

The second variety of unawareness and confabulation stands in contrast to neutral confabulation and addresses the personal, motivational, and positive as-

pects of the syndrome. I originally called this type of confabulation *personal confabulation*, but Conway and Tacchi (1996) introduced the term *motivated confabulation* that could also apply to this variety of confabulation. These confabulations are delusional beliefs that cut across sensory domains and are refractory to correction. The content of the confabulation in this variety of the syndrome is *personal* in that the material is *about* the patient and the patient's defects or problems, not about particular stimuli or semantic knowledge that have no personal relevance for the patient. The confabulations are *motivated* in the sense that they appear to serve a role in the adaptation to the defects of which the patient is seemingly explicitly unaware. While patients with neutral forms may show implicit knowledge within their sensory or memory defects, patients with personal forms may show *implicit awareness of the defects themselves*. Orbitofrontal and ventromesial frontal damage, particularly of the right hemisphere, may contribute to personal confabulation.

Turning now to the target article of Turnbull and coauthors, which variety of confabulation did these patients demonstrate? Can the confabulation of these patients be explained by simple unawareness, or do we require a motivational explanation for their verbal productions? In other words, are these patients displaying personal confabulation?

While the number of cases examined in this study is very small, two out of three patients in this report showed a *mismatch* between their mood and their verbal productions in that these patients showed low mood ratings despite verbalizations that were rated to represent a “pleasant” reality. How are we to account for this finding? If these patients were simply unaware of their current circumstances (neutral confabulation), “pleasantness” ratings might be high and should match mood ratings (“ignorance-is-bliss account”) and no mismatch would occur. Alternatively, if the patients were appropriately aware and depressed, there also would be no observed mismatch between “pleasantness” and mood. Neither of these two scenarios accounts for the observed mismatch reported by Turnbull and coauthors, and this suggests that motivation is indeed present in these patients.

There are two other explanations for the observed mismatch that take into consideration motivation: (1) the patients were motivated to produce “wish-fulfilling” confabulations (as suggested by the authors) or (2) the patients were in denial of their impairments. Although I do not feel that it is possible to completely disentangle these two points of view, nor do I feel that these two mechanisms are mutually exclusive. I would surmise that if these patients were relying entirely on

Table 1. Features of personal confabulation

Impaired self-monitoring
Self-referential/autobiographical
Polymodal
Often delusional (impervious to correction)
Implicit knowledge of stimulus
Personality and motivation important
May be symbolic/metaphoric
Associated with dissociation/denial
May have implicit knowledge of defects

Based on Feinberg (1997) and Feinberg and Roane (1997).

wish-fulfilling primary-process thinking unbridled by the reality principle, then the "pleasantness" ratings of their confabulations would be high, *but the mood ratings should be high as well* (a version of the "ignorance-is-bliss account"). Under these circumstances, patients should not demonstrate a pronounced mismatch between mood and pleasantness ratings.

The alternative explanation for this finding is that these two patients were in psychological denial of their impairments. While they appeared explicitly unaware of their true circumstances, they may have had implicit knowledge of the true state of affairs—one of the key features of *personal* or *motivated* confabulation (Table 1). Their denial, however, was incomplete and did not allow the patients to completely escape the unpleasant reality of their current predicament, with resulting low mood. This latter fact could account for the observed mismatch between the ratings of high "pleasantness" of confabulation and low ratings of mood.

With regard to the third case (Mrs. F), the authors suggest that the patient's *projection* of her disability onto others might also represent a more "pleasant" confabulation. Although I would agree that projection is likely, since this is common in confabulation (Feinberg, 2001), I think the interpretation of this case points up some of the weaknesses of a simple "pleasantness" interpretation of confabulation. Mrs. F misattributed her own leg spasms to her children and her gynecological problems to her therapist. The authors suggest that the projection might have offered some "narcissistically defined affective gain." This may be true, but why didn't the patient then misattribute her problems to neutral strangers? Or just deny them altogether? To explain these specific misattributions as "pleasant," we would have to infer that the patient had ambivalent feelings about both her therapist and her children. This is, of course, possible. But another interpretation of this patient's misattributions is that she has ruptured

ego boundaries, common in confabulatory patients (Feinberg, 2001), and is having difficulty distinguishing herself from others. She knows that *someone* has leg spasms and gynecological problems, she's just not sure who. Identifications with those close to her resulted in confusion between herself and significant others.

In summary, I believe that Turnbull and coauthors have found an interesting and valid way to look at the nature of false beliefs in confabulatory patients, but I feel that the data are actually more consistent with the presence of denial. That said, I suspect that simple unawareness, wish fulfillment, and denial all may be present in varying proportions in different confabulatory patients and that "*wish fulfillment*" and "*denial*" are two sides of the same psychologically motivated state. According to this hypothesis, motivation supports both wish fulfillment and denial.

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Commentary on "The Pleasantness of False Beliefs"

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CONFABULATION, PLEASANT AND UNPLEASANT

Turnbull, Jenkins, and Rowley present a study of the complex and fascinating neuropsychological phenomenon of spontaneous confabulation. In empirically revisiting the clinical material of Kaplan-Solms and

Solms (2000), and by applying established neuroscientific methodologies, they produce findings that have genuine interdisciplinary merit. Their study falls within a newly developed and neuro-psychoanalytically informed approach that empirically accounts for emotional biases in confabulation (Fotopoulou, Solms, & Turnbull, 2004; Turnbull, Berry, & Evans, 2004). Such an approach provides an alternative motivational explanation to the various, predominantly cognitive, models of the phenomenon. Their results confirm the previous finding of significantly increased "pleasantness" in the false memories and beliefs of confabu-